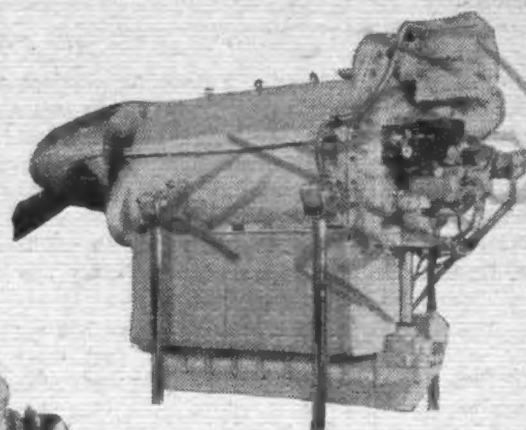
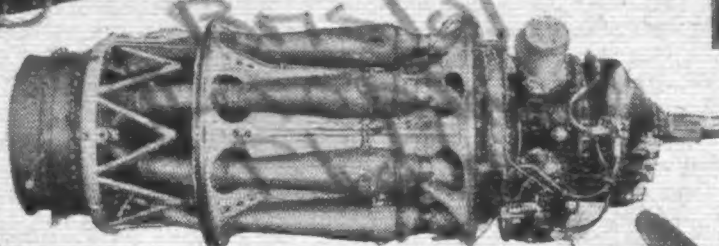


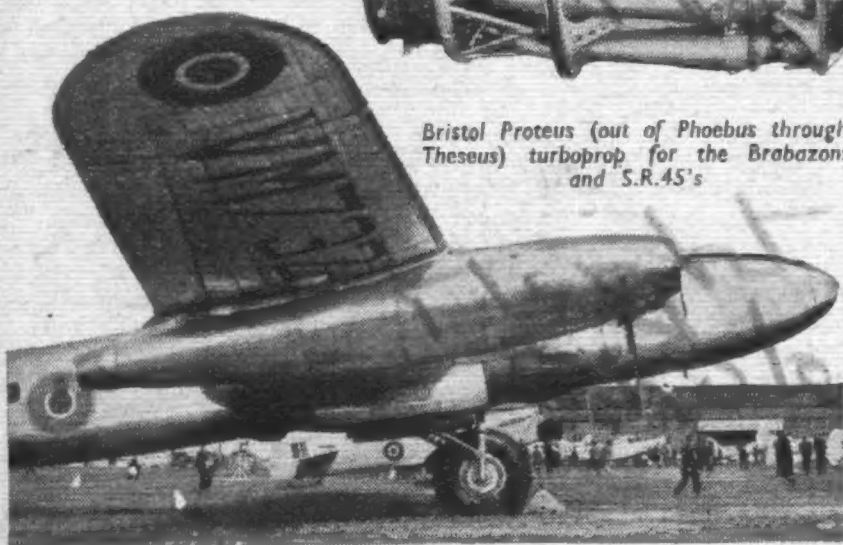
D.H. Ghost power plant with anti-icing equipment. This is a civil development.



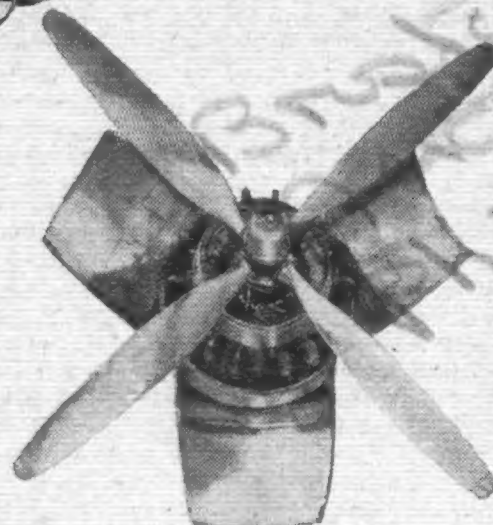
Type-tested and airborne for the first time in a Messenger, the Cirrus Bombardier has progressed rapidly in 1948.



Bristol Proteus (out of Phoebe through Theseus) turboprop for the Brabazons and S.R.45's



Long and slim Rolls-Royce Avon nacelle in its Lancastrian test bed. Avon and Tay are the latest high-power turbojets to be announced.



Opened up for inspection is one of the Hercules 763s for the Hermes IV.

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surprise preview of two powerful A.J.65 Avon axial turbojets in their Lancastrian test-bed at Farnborough. A bare announcement of the Tay R.T.A.1, another powerful turbojet, was also made late in the year.

The first flight of a pair of Pythons is still delayed but the installation was completed, and the engines were ground run. Any other installations must await the test-bed's successful first flight. In contrast, the Mamba, development of which recently formed the subject of an important R.Ae.S. lecture, put in a good number of hours in Balliol and Athena trainers. A neat civil installation for the Apollo was completed, and a more powerful version, the Mamba II, is running.

In the same power class the two-stage centrifugal R.-R. Darts, four of which are installed in the Viscount, played their important part in this highly successful debut. A new 1,400 b.h.p. Dart, R.Da.3, was also announced. Napier's Naiad, with a specially designed ducted spinner intake, put in some important flight development hours, and a departure with great potentialities. "Siamese-style" coupled Naiads, are now well on the way. An attractive civil Naiad installation appeared at Farnborough.

Metrovick Beryls, fully rated, were installed in both an S.R.A.1 and a Meteor. In the latter case a startling climb performance was recorded.

No doubt 1948 will also be remembered for the introduction of large pure-jet aircraft—in particular the Nene-Viking and the Tudor VIII for research. The twin-Nene-powered A.W.52 flying wing was joined by a Derwent V version. Witness to the prestige of the Nenes is borne by the licensing agreements with France and America.

In the record field an up-rated Goblin III in the D.H.108 featured in the 100-km closed-circuit flight, and its larger stable-mate, the Ghost, powered the special high-altitude Vampire. This performance, considered in conjunction with the highly interesting Ghost power plant complete with de-icing arrangements, seen at Farnborough, was particularly significant and praiseworthy. In quite another class, the performance of the Alvis Leonides helicopter unit in the record-breaking Gyrodyne bore witness to another successful development in this new sphere.

A particularly fine example of large piston-engine power plants of to-day has been provided by the four Bristol Hercules in the Hermes IV. All excrescences have been removed and petal-type cowlings are fitted. Rolls-Royce Griffon power plants underwent further development.

In spite of pre-occupation and the difficulties which confront private flying, it was an active year for small engines. Gipsy Queen and Major X power plants with v.p. airscrews were further developed. Other members of the Major series also progressed. A first flight was made lately by the Blackburn Cirrus Bombardier, smallest of a new and advanced series of in-line engines.

There was no announcement during the year of British developments in the liquid rocket or athodyd (ramjet) class of power unit, nor was mention made of turbines compounded or with after-burning. A Dart, up-rated in power through the use of water-methanol, was, however, announced. Avro Canada announced their first turbojet, the Chinook.

Details which received particular attention during the year were single-lever power controls for turboprops (particularly those with axial compressors) and combustion chamber design. Lucas studied a new annular combustion chamber, and Armstrong Siddeley had considerable success,